

Ovarian Cancer in Massachusetts

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Ovarian Cancer Commission
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Massachusetts Cancer Registry Background

- 1980: MCR established by state law
- 1982: began case reporting
- 1992: *in situ* cases
- 1994: federal funding (NPCR)
- 1995: treatment
- 1997: death clearance
- 2000: outpatient reporting
- 2004: required reporting of benign brain-related tumor disease; Collaborative Staging
- 2014: MU Stage 2 cancer reporting for Eligible Providers



Legislation

Massachusetts:

- Law: MGL Chapter 111, Section 111B: Malignant disease and benign brain-related tumor registry; reports (1980, 2004)
- Regulations: 105 CMR 301.000: Cancer Registry

Federal:

- Public Law 102-515: the Cancer Registries Amendment Act (1992)



National Cancer Institute: Surveillance, Epidemiology, and End Results Program (SEER)

- The SEER program was established in 1972.
 - It currently includes data from approx. 28% of the US population.
 - The population covered by SEER is comparable to the general US population with regard to measures of poverty and education. Non-white populations are over-sampled to ensure sufficient numbers of cases for analysis.

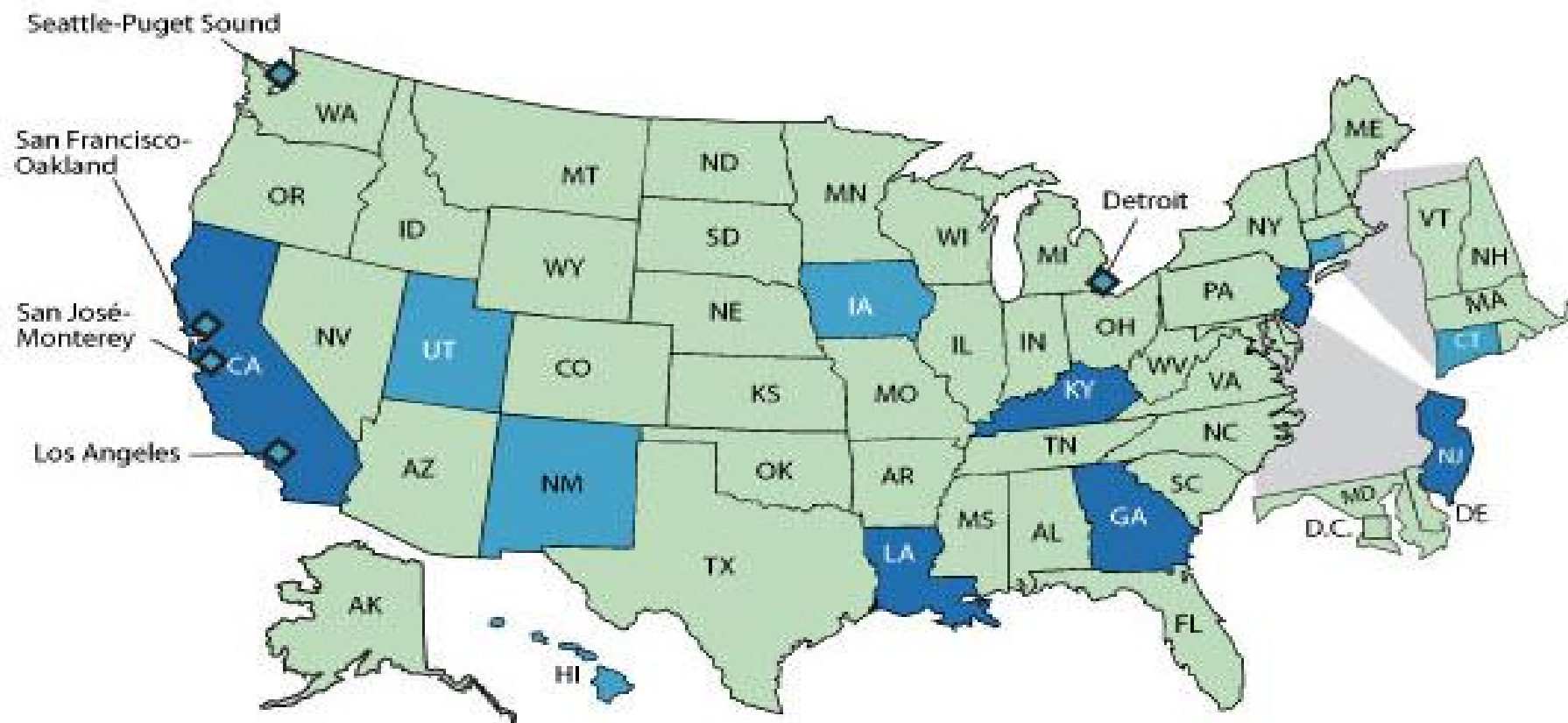


Centers for Disease Control and Prevention: National Program of Cancer Registries (CDC/NPCR)

Cancer Prevention and Control

- Program Management, Leadership, and Coordination
- National Breast and Cervical Cancer Early Detection Program
- National Comprehensive Cancer Control Program
- **National Program of Cancer Registries**
 - Supports central cancer registries in 45 states, DC, Puerto Rico, Palau, and the U.S. Pacific Island Jurisdictions
 - Represents 96% of the US population

Federally Funded Registries





Ovarian Cancer Data 2009-2013

Incidence

- Number of cases: 2,492
- Average number of cases per year: 498
- Percent of all cancers diagnosed among females: 2.6%
- Age-adjusted incidence rate: 11.9 per 100,000



Ovarian Cancer Data 2009-2013

Mortality

- Number of deaths: 1,690
- Average number of deaths per year: 338
- Percent of all cancer related deaths among females: 2.6%
- Age-adjusted mortality rate: 7.5 per 100,000

Age-Adjusted Incidence Rates, Females, 2009-2013

Cancer Site	Rate/100,000
Breast	135.8
Bronchus and lung	61.8
Colon/Rectum	34.9
Corpus Uteri & Uterus, NOS	29.5
Thyroid	29.0
Melanoma	17.9
Non-Hodgkin's Lymphoma	16.5
Ovary	11.9
Urinary Bladder	11.4
Pancreas	11.3

Age-Adjusted Mortality Rates, Females, 2009-2013

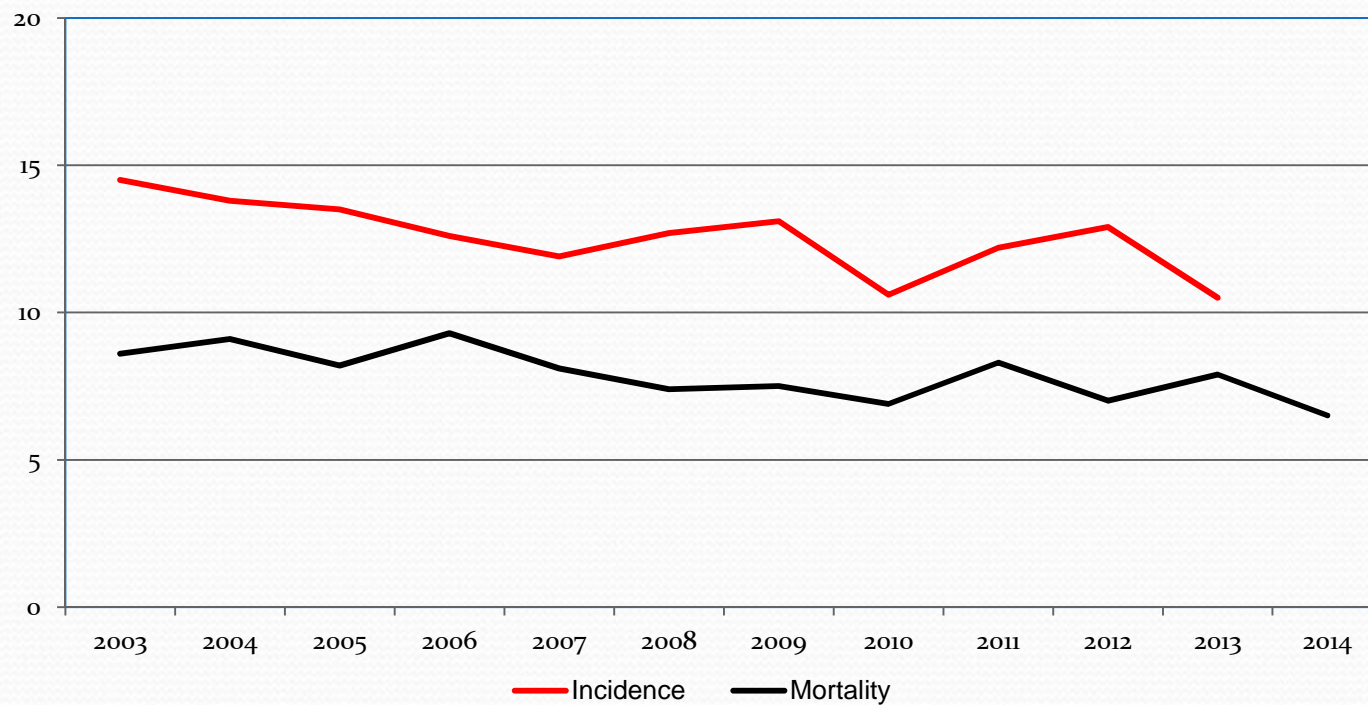
Cancer Site	Rate /100,000
Bronchus and Lung	38.4
Breast	19.2
Colon/Rectum	11.4
Pancreas	9.7
Ovary	7.5



Ovarian Cancer Data Trends

- The ovarian cancer incidence rate (2003-2013) and the mortality rate (2003-2014) decreased significantly.
- The annual percent change of -2.2%, was identical for both incidence and mortality.

Figure 1: Ovarian Cancer Incidence (2003-2013) and Mortality Rates (2003-2014) in Massachusetts*



Data Sources: Massachusetts Cancer Registry (incidence) and Massachusetts Vital Statistics (mortality)
 *-Rates are age-adjusted to the 2000 US Standard Population. APC=Annual Percent Change and 95% Confidence Intervals. ** indicates a statistically significant trend ($p < .05$).

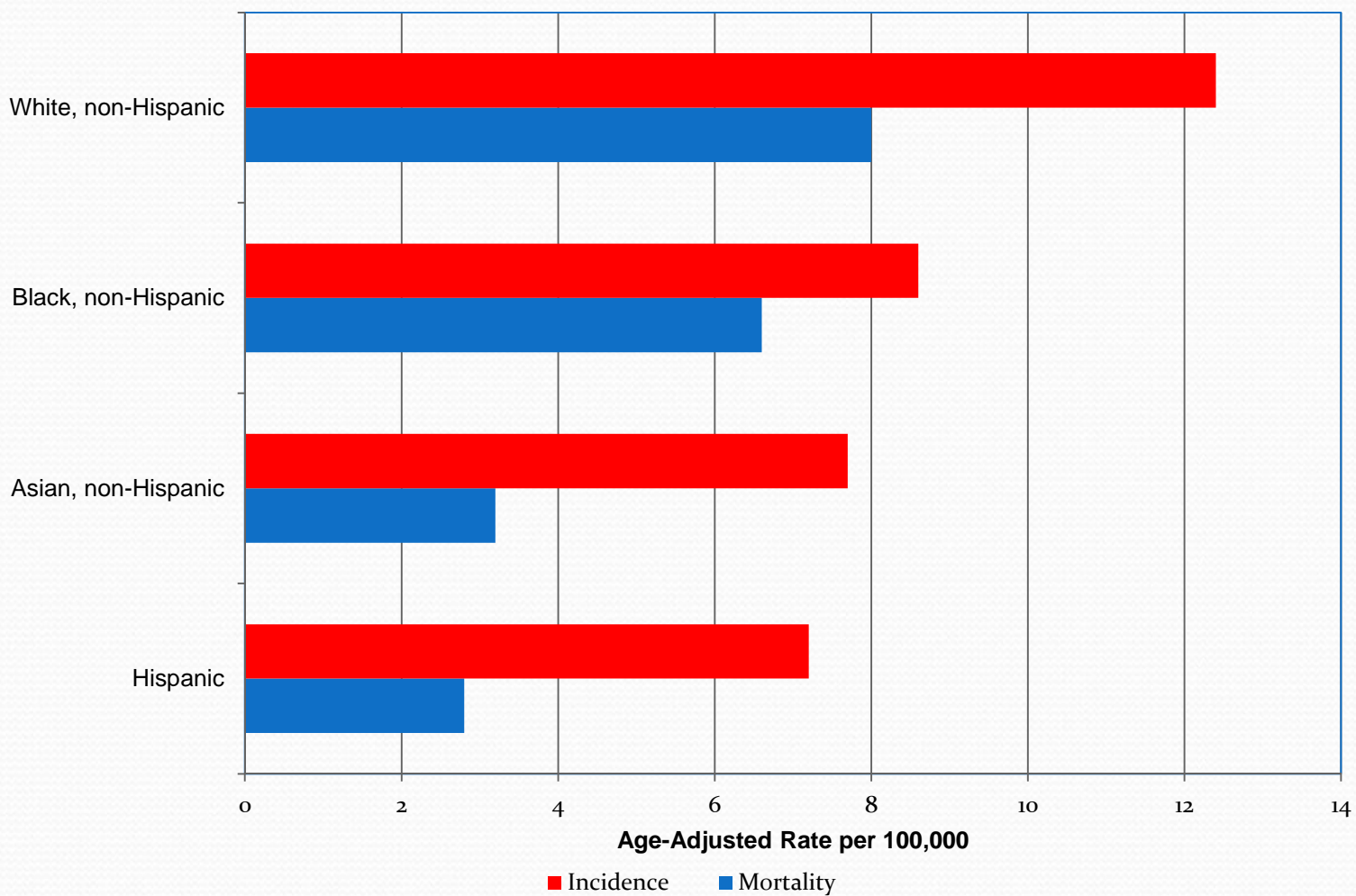


Ovarian Cancer Data

Race/Ethnicity

- From 2009-2013, white non-Hispanic women has the highest incidence and mortality rates for ovarian cancer.
- The mortality rates for white and black, non-Hispanic did not differ significantly though both differed significantly from the rates for Asian, non-Hispanic and Hispanic women.
- While the rate was higher for white, non-Hispanic women, the mortality to incidence ratio was higher among black, non-Hispanic women (0.79) compared to white, non-Hispanic women (0.64)

Figure 2: Age-Adjusted Ovarian Cancer Incidence and Mortality Rates¹ by Race/Ethnicity, Massachusetts, 2009-2013



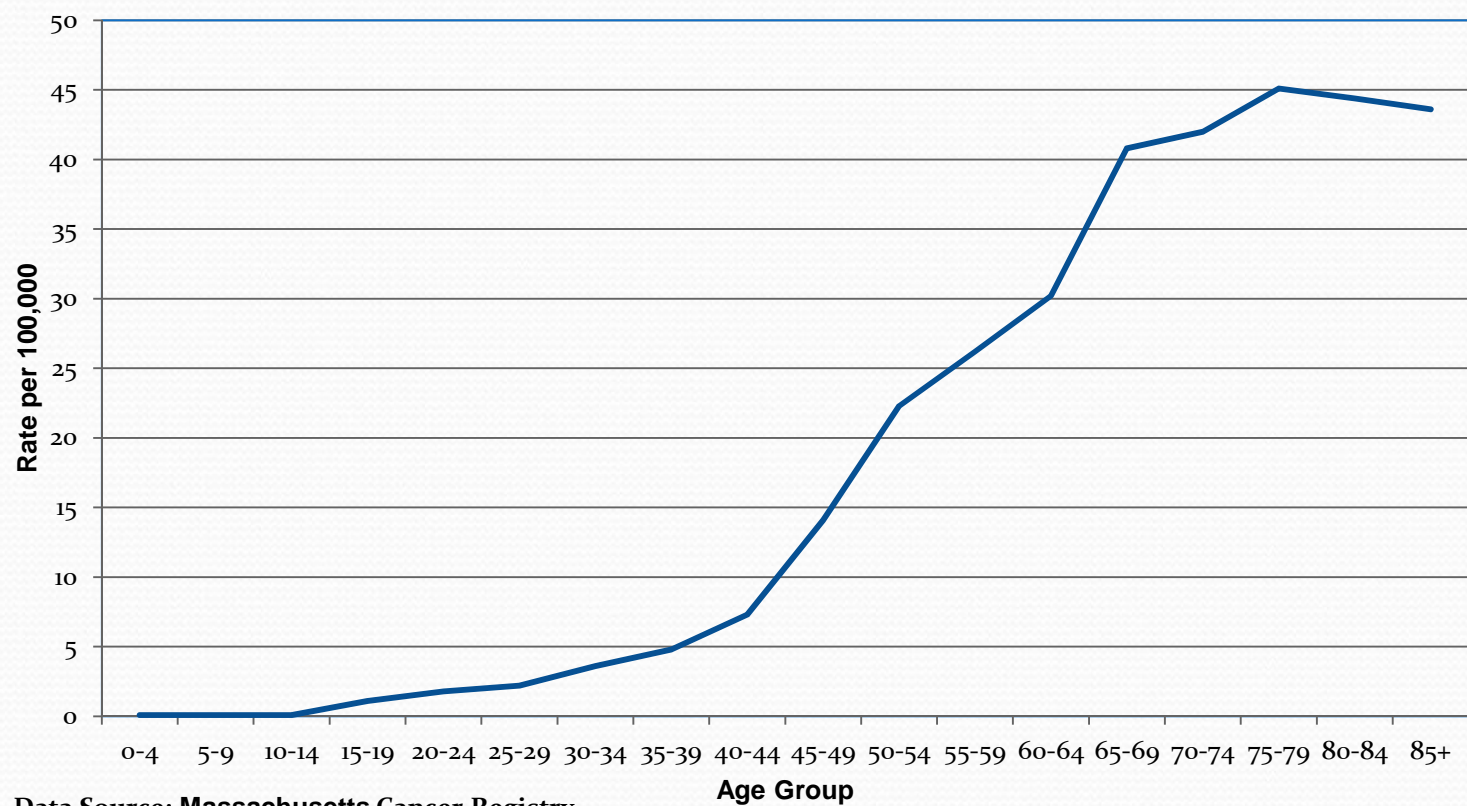
Data Source: Massachusetts Cancer Registry. ¹-age-adjusted to the 2000 US Standard Population.



Ovarian Cancer Age-Specific Incidence Rates

- From 2009-2013, the age-specific incidence rates for ovarian cancer increased with increasing age, peaking in the 75-79 age group with a rate of 45.1 per 100,000.
- The median age at diagnosis was 63.

Figure 3: Ovarian Cancer Age-Specific Rates in Massachusetts, 2009-2013



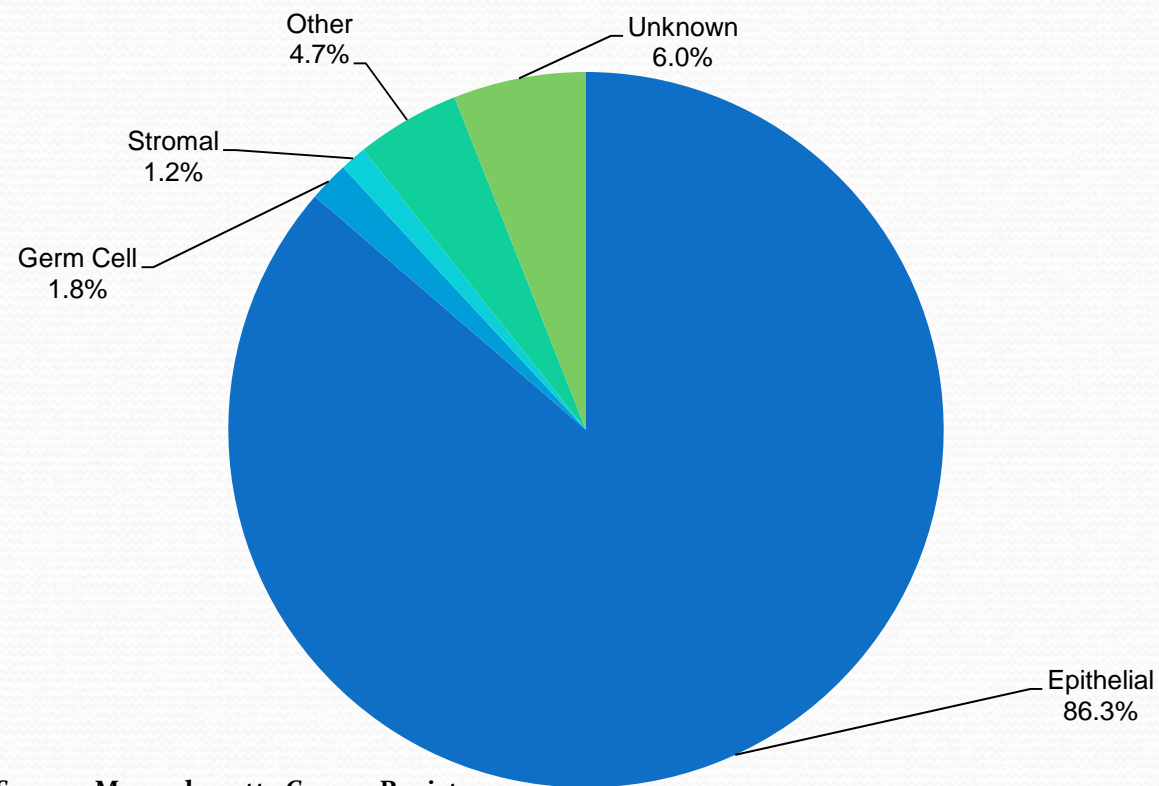
Data Source: Massachusetts Cancer Registry



Ovarian Cancer Histologic Subtypes

- There are three major histologic subtypes of ovarian cancer: epithelial, germ cell, and stromal.
- Epithelial ovarian cancers were the most common representing 86.3%; approximately 4.7% were other histologic types and 6% were unknown.

**Figure 4: Ovarian Cancer In Massachusetts by Histologic Subtype, 2009-2013
(n=2492)**



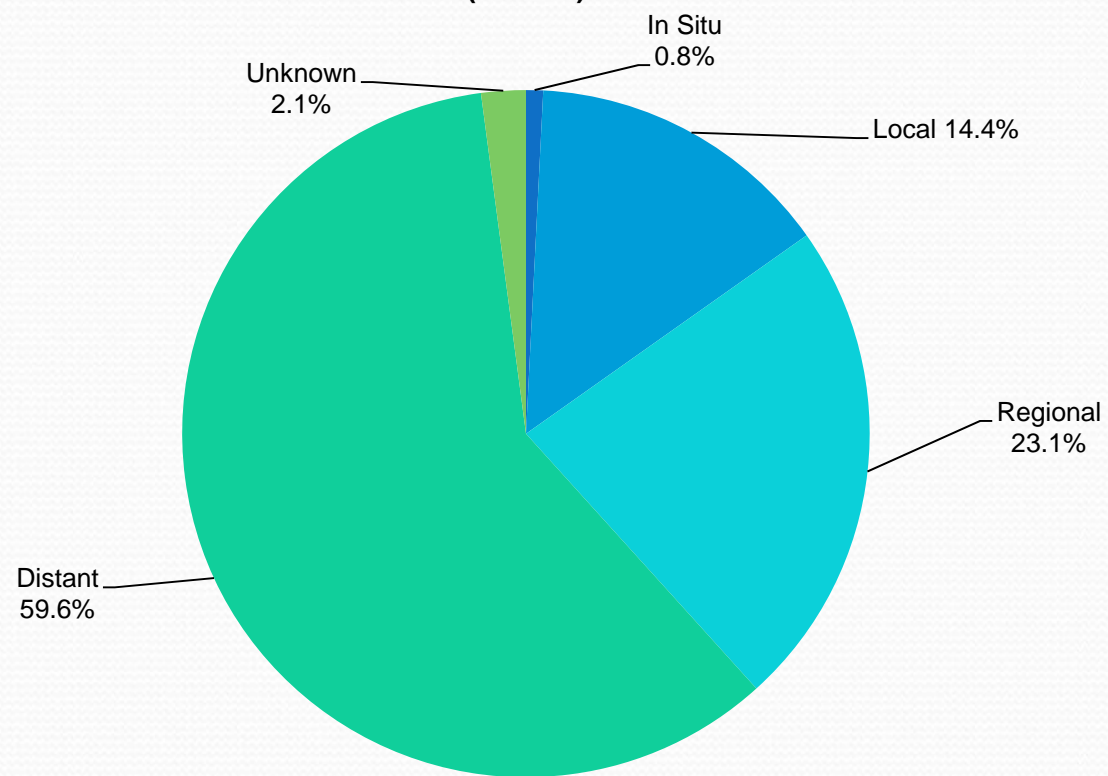
Data Source: Massachusetts Cancer Registry



Ovarian Cancer Stage at Diagnosis, 2009-2013

- A majority of ovarian cancer cases (59.6%) was diagnosed at the distant stage, where the cancer has metastasized to other parts of the body.
- Cases diagnosed at the regional stage, where the cancer has moved to surrounding tissues beyond the ovary, accounted for nearly 25% of the cases.
- Case diagnosed at the local stage, where the cancer is found only in the body part (organ) where it began, only accounted for 14% of the cases.
- A higher percentage of black, non-Hispanic women (70.6%) were diagnosed at the distant stage compared to the other racial/ethnic groups.

**Figure 5: Ovarian Cancer in Massachusetts by Stage at Diagnosis, 2009-2013
(n=2492)**



Data Source: Massachusetts Cancer Registry

Table 1: Ovarian Cancer Cases by Stage at Diagnosis and Race/Ethnicity*, Massachusetts 2009-2013

	In Situ		Local		Regional		Distant		Unknown		Total
	Num	%	Num	%	Num	%	Num	%	Num	%	
White, NH	20	0.9%	316	14.1%	521	23.3%	1198	53.6%	178	8.0%	2233
Black, NH	0	0	14	15.2%	9	9.8%	65	70.6%	4	4.3%	92
Asian, NH	1	1.5%	13	19.4%	20	29.9%	30	44.8%	3	4.5%	67
Hispanic	0	0	13	16.1%	21	25.9%	42	51.8%	5	6.2%	81
Total	21	0.8%	359	14.4%	577	23.1%	1349	54.1%	190	7.6%	2496

Data Source: Massachusetts Cancer Registry

* - results are for the four major racial/ethnic groups in Massachusetts.



Well-Confirmed Risk Factors

Decrease Risk

- Oral contraceptive use
- Parity
- Tubal ligation

Increase Risk

- Family history
- BRCA carrier
- Endometriosis